

HELMINTHOLOGICAL ABSTRACTS

incorporating
BIBLIOGRAPHY OF HELMINTHOLOGY
For the Year 1941.



IMPERIAL BUREAU OF AGRICULTURAL PARASITOLOGY
(HELMINTHOLOGY)

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FOR THE YEAR 1941.

Vol. X, Part 3.

105—Advisory Leaflet. Ministry of Agriculture and Fisheries. London.

- a. ANON, 1941.—“Root-knot eelworm in glasshouses.” No. 307, 4 pp.

106—Agricultural Gazette of New South Wales.

- a. ANON, 1941.—“Potato eel-worm.” 52 (7), 369-370.
b. KEAST, J. C., 1941.—“A new treatment for worm infestation in domestic animals. Phenothiazine.” 52 (8), 415-416.

(106b) Keast recommends phenothiazine, at the local price of 6s. 10d. per lb., against the nematodes of sheep, cattle, horses, pigs and poultry in Australia. Dosage rates are suggested. B.G.P.

107—Állatorvosi Lapok.

- *a. KOTLÁN, A. & VAJDA, T., 1941.—[The concentration of liver-fluke eggs and the diagnosis of liver-fluke disease.] 64 (4), p.19.

(107a) Kotlán & Vajda point out that too much weight must not be placed on the finding of fluke eggs in faeces as evidence for fluke disease. The latter, as distinct from mere infestation, depends on numerous factors internal and external to the host while, on the other hand, immature flukes may cause even fatal disease in the complete absence of faecal eggs. Nevertheless, they recommend concentration of fluke eggs in faeces with potassium carbonate. [From an abstract in Dtsch. tierärztl. Wschr., 49, 260-261.]

B.G.P.

108—American Journal of Hygiene. Section D. Helminthology.

- a. MARTIN, G. J., THOMPSON, M. R. & ACCOUSTI, N. J., 1941.—“Therapeutic and prophylactic detoxication, anthelmintics.” 34 (2), 23-35.
b. KOTCHER, E., 1941.—“Studies on the development of frog filariae.” 34 (2), 36-58.

(108a) Martin, Thompson & Accousti have studied the effects of detoxifying agents and combinations of these substances on the anthelmintic (estimated by the Lamson & Brown technique) and toxic (tested on graded mice in groups of 25) properties of ascaridole, aspidium and tetrachlorethylene. Ascaridole or aspidium were mixed with the detoxicants and given by the mouth whereas tetrachlorethylene was injected subcutaneously and the detoxifying substances given orally. Of the 44 substances examined, greatest detoxication was obtained with methionine, cysteine, cystine, glycine, ascorbic acid, glucuronic acid and choline. A combination of the

* Original not available for checking or abstracting.

5 latter substances was most effective. The addition of these chemicals increased the anthelmintic effects of tetrachlorethylene but lowered the activity of ascaridole. W.P.R.

(108b) Kotcher describes the development, in the intermediate hosts, of three species of *Foleyella* found in frogs in America, viz., *F. brachyoptera*, *F. dolichoptera* and *F. ranae*. R.T.L.

109—American Journal of Medical Technology.

- *a. MOSS, E. S., 1941.—“Criteria for the identification of the more common intestinal parasites, with methods for the preparation and examination of stools.” 7, 1-24.
- *b. TATE, H., 1941.—“Incidence of intestinal parasites.” 7, 116-125.

110—American Journal of Roentgenology and Radium Therapy.

- a. DOMBROUSKY, A. I., 1941.—“The roentgen diagnosis of *Cysticercus*.” 45 (4), 558-562.

111—Anales de la Facultad de Veterinaria. Montevideo.

- a. CALZADA, V., 1941.—“Contribución al estudio de la evolución de *Metastrongylidae*. Demonstración micrográfica del trayecto pulmonar de la evolución de *Metastrongylus* y *Dictyocaulus*.” 3 (5), 515-522.

(111a) Calzada states that the pathogenic lungworms of sheep and pigs in Uruguay are confined to the genera *Dictyocaulus* and *Metastrongylus* respectively. From a large series of histological sections he has confirmed the migration of the larvae from blood vessels to the finer bronchioles; the migration is more rapidly accomplished and occasions less reaction in the case of *Dictyocaulus*. B.G.P.

112—Anales del Instituto de Biología.

- a. CABALLERO Y C., E., 1941.—“Tremátodos de las culebras de agua dulce de México. I.” 12 (1), 111-121. [English summary p. 119.]
- b. CABALLERO Y C., E., 1941.—“Parasitismo en *Gallus gallus* L. originado por *Zygocotyle lunatum* en la región de Lerma. III.” 12 (1), 123-125.

(112a) Three flukes are described from *Thamnophis* spp. in Mexico. *Cercorchis kinosterni* Byrd, 1936, is redescribed, and *C. thamnophidis* n.sp. is differentiated chiefly on the caeca which only reach the anterior edge of the testis. *Renifer brevicoccus* n.sp. is differentiated from the 6 known species of the genus by the lack of oesophagus, the poor development of the caeca, the location of the cirrus and the disposition of the yolk glands. R.T.L.

113—Annaes da Academia Brasileira de Ciencias.

- a. FREITAS, J. F. TEIXEIRA DE, 1941.—“*Sellacotyle lutzi* n.sp., trematode parasito de *Hoplias malabaricus* Bloch.” 13 (1), 17-19.

(113a) Freitas describes *Sellacotyle lutzi* n.sp., a trematode parasite found in the pyloric diverticulum of the fish *Hoplias malabaricus* in São Paulo, Brazil. It can be distinguished by the large size of the suckers, the position of the genital pore which lies in the region of the acetabulum and

* Original not available for checking or abstracting.

in the relative positions of the genitalia. The testes lie laterally in the posterior part of the body, while the ovary is anterior to them, not quite median. The spermatheca is posterior to the testes, not quite median, while the vesicular seminalis is an elongated structure, waisted, passing anterior to the genital pore before it finally turns back again. P.A.C.

114—Annales de Parasitologie Humaine et Comparée.

- a. BRUMPT, E., 1941.—“Observations biologiques diverses concernant *Planorbis (Australorbis) glabratus*, hôte intermédiaire de *Schistosoma mansoni*.” 18 (1/3), 9-45.
- b. DESPORTES, C., 1941.—“Nouvelles recherches sur la morphologie et sur l'évolution d'*Icosiella neglecta* (Diesing 1851), filaire commune de la grenouille verte.” 18 (1/3), 46-66.

(114a) *Planorbis glabratus* appears to be the only carrier of *Schistosoma mansoni* in the New World. With a view to its control, Brumpt has made numerous observations on its biology. The snail and its eggs are killed by mixtures of salt and fresh waters containing more than 25% sea water. They can withstand short exposures to a temperature of 37° C., but if this is maintained they die in 3 or 4 days, as at 4° C. The optimum lies in the range 25° to 30° C. They can withstand at least 50 days' desiccation, if unparasitized. The commonly seen erosion of the shell is a process initiated by the browsing of their fellows. Whilst unilateral copulation is general, self-fertilization readily occurs in isolated specimens. During egg-laying, beginning at 6 weeks and ending at death at about 18 months, a single snail may lay 20,000 eggs, depositing 20 egg-masses of 50 to 80 eggs each month. Of these, 85 to 100% hatch. There may be 6 generations a year. Not only may miracidial infestation occur in the tentacles or foot, but the whole development may occur there, without migration to the digestive gland. For the first time, cercariae are recorded from within the eggs of infested snails. B.G.P.

(114b) Desportes partly redescribes *Icosiella neglecta* (Diesing) Seurat, occurring subcutaneously in *Rana esculenta* and wrongly confused with Rudolphi's *Filaria rubella* in the literature. It is highly probable that the chironomid, *Forcipomyia velox*, the females of which suck blood exclusively from amphibians, is the vector. Early stages of development are readily produced in this fly, and there is a natural infection rate of 5% with likely filariid larvae; the difficulty is that it has not proved possible to keep the flies alive in captivity for more than 5 days. B.G.P.

115—Annals of Tropical Medicine and Parasitology.

- a. DAENGSVANG, S. & MANGALASMAYA, M., 1941.—“A record of some cases of human infestation with *Fasciolopsis buski* occurring in Thailand.” 35 (1), 43-44.

116—Archives of Neurology and Psychiatry. Chicago.

- a. RAY, B. S., 1941.—“Cysticercosis of the brain. Report of a case with operation.” 45 (3), 494-504.

117—Archivos de Pediatría del Uruguay.

- a. CASAUBON, A., 1941.—“Quistes hidáticos del pulmón ocultos por derrames pleurales.” 12 (3), 145-155.

118—Arquivos de Zoologia do Estado de São Paulo.

- a. FREITAS, J. F. TEIXEIRA DE & LENT, H., 1941.—“Contribuição ao conhecimento da sub-família Kathliniinae Lane, 1914 (Nematoda: Subuluroidea).” 3 (2), 13-41.

(118a) After reviewing the subfamily Kathliniinae, Freitas & Lent come to the conclusion that it can only hold the following 7 genera: *Tonaudia*, *Kathlania*, *Spectatus*, *Amblyonema*, *Dibulbiger*, *Falcaustra* and *Zanclophorus*, for the further differentiation of which they have compiled a table. They then consider the several species of each genus with notes on synonymy and distribution. They discuss the structure of *Falcaustra leptodactyla* n. comb. in some detail as its relationships are not completely clear and decide that it is a valid species, showing however resemblances to *F. mascula* and *F. nitida*. The following species are also included in the genus *Falcaustra*: *F. mascula* n. comb., *F. elongata* n. comb., *F. nitida* n. comb., *F. congolensis* n. comb., *F. onama* n. comb., *F. cryptobranchi* n. comb., *F. duyagi* n. comb., *F. japonensis* n. comb., *F. brevispiculata* n. comb., *F. wardi* n. comb., *F. concinnae* n. comb., *F. pretiosa* n. comb., *F. rangoonica* n. comb., *F. intermedia* n. comb., *F. waltoni* nom. nov. P.A.C.

119—Athena. Rassegna Mensile di Biologia-Clinica e Terapia.

- *a. REVOLTELLA, G., 1941.—“Su un singolare ospite di una fistola della parete addominale.” 10, 19-20.

120—Australian Veterinary Journal.

- a. ROBERTS, F. H. S., 1941.—“Phenothiazine as an anthelmintic for horses, cattle and pigs.” 17 (4), 130-137.

(120a) Roberts has found from egg-counts that doses of 25 to 90 g. of phenothiazine are highly effective against strongyles and moderately effective against ascarids in 14 horses of various types. The only two showing untoward symptoms received 90 and 75 g., and they alone were starved 16 hours before treatment. A similar criterion applied to 8 cattle given 30 to 168 g. as a drench by stomach tube showed high efficiency against *Haemonchus*, *Ostertagia* and/or *Trichostrongylus*, and hookworm, but reduced efficiency against *Cooperia*. All cattle showed toxic symptoms even at the lowest rate of 0.16 g. per lb. A “critical” worm-count test on 14 pigs given from 0.2 to 2 g. per lb. showed high efficiency against *Oesophagostomum*, less against *Ascaris* (except at the highest dose rates) and none against *Trichuris*, *Ascarops*, and *Hyostrongylus*. Dose rates of 0.8 g. per lb. and over produced symptoms of inappetence and (as in calves) inco-ordination of the hind quarters. One autopsied pig showed inflammation in the alimentary canal, enlarged liver and congested kidneys. B.G.P.

* Original not available for checking or abstracting.

121—Berliner und Münchener Tierärztliche Wochenschrift.

- a. BAUDET, E. A. R. F., 1941.—“Strongylosis beim Pferd.” Jahrg. 1941 (36), 429-432.

(121a) Baudet reviews recent literature on all aspects of strongylosis of the horse, laying particular emphasis on the importance of prophylaxis.

A.E.F.

122—Biological Reviews.

- a. DRECHSLER, C., 1941.—“Predaceous fungi.” 16 (4), 265-290.

(122a) Drechsler presents an extensive review of the predaceous fungi, to the knowledge of which his own researches have so greatly contributed, which capture and destroy various kinds of small animals, including nematodes, by means of special hyphal loops or rings or by adhesive structures. Up to date, 53 species of fungi have been reported as predaceous forms and of these 25 belong to the hyphomycetes among which 21 species subsist by the capture of nematodes. Their organs of capture consist of adhesive networks, stalked adhesive knobs, adhesive columns, constricting and non-constricting rings. Of 25 species of predaceous phycomycetes belonging to the Zoopagaceae, only 3 species prey upon nematodes. There is a full account of observations and experiments on the possible utilization of some of these fungi in the biological control of certain plant and animal parasitic nematodes.

T.G.

123—Bird-Banding.

- *a. MORGAN, B. B. & WALLER, E. F., 1941.—“Some parasites of the eastern crow (*Corvus brachyrhynchos brachyrhynchos* Brehm).” 12 (1), 16-22.

(123a) An examination of crows, *Corvus brachyrhynchos brachyrhynchos*, in Wisconsin and Iowa has yielded 7 helminthic species. The blood of some birds contained microfilariae, which have not been identified. Two species of cestodes and four of nematodes have been recovered and all are known to be parasites of corvid birds. [From an abstract in Exp. Sta. Rec., 85, p. 82.]

P.A.C.

124—British Medical Journal.

- a. MOZLEY, A., 1941.—“Malachite in the control of bilharzia.” Year 1941, 2 (4214), p. 511.

(124a) In a brief note Mozley states that malachite (mineralized basic copper carbonate), when ground to pass a 200-mesh sieve and costing in Rhodesia less than £1 per ton, yields an effective concentration of 0.5 part of copper per million when placed in natural water for the purpose of destroying the snail vectors of Bilharzia.

R.T.L.

125—Brooklyn Hospital Journal.

- *a. HILLMAN, R. W., 1941.—“Oxyuriasis of the appendix; a clinical study of 31 cases.” 3, 83-93.

*126—Bulletin of the Nebraska Agricultural Experiment Station.

- a. VAN ES, L. & OLNEY, J. F., 1941.—“Poultry diseases and parasites.” No. 332, 90 pp.

* Original not available for checking or abstracting.

127—Bulletin of the Quezon Institute. Manila.

- *a. VITUG, W., CRUZ, J. R., AFRICA, C. M. & CHIKIAMCO, P. S., 1941.—
 "A case of endemic hemoptysis (pulmonary paragonimiasis)." 1, 389-398.

128—Canadian Journal of Research. Section D. Zoological Sciences.

- a. GREEN, N. K. & WARDLE, R. A., 1941.—"The cultivation of tapeworms in artificial media." 19 (8), 240-244.
 b. WARDLE, R. A. & GREEN, N. K., 1941.—"The rate of growth of the tapeworm *Diphyllobothrium latum* (L.)." 19 (8), 245-251.

(128a) *Hymenolepis fraterna* remained active for 20 days, considerably exceeding its normal longevity *in vivo*, when the worms were washed by being allowed to fall ten times through columns of sterile Tyrode's solution and finally transferred to dilute sterile Baker's tissue culture medium A (i.e., 10 drops to 5 c.c. of Tyrode's solution). R.T.L.

(128b) Wardle & Green find that growth of *Diphyllobothrium latum* in dogs is rapid from the 6th to the 15th day after infestation, when weight or length or cross-section (given by the weight/length ratio) can be expressed as a hyperbolic function of age; after the 15th day there is a rhythmical fluctuation in these dimensions due to recurrent apolysis. B.G.P.

129—Canadian Medical Association Journal.

- a. BEREGOFF-GILLOW, P., 1941.—"The treatment of intestinal parasites by the DeRivas duodenal lavage method." 44 (1), p. 58.

130—Deutsche Tierärztliche Wochenschrift.

- a. WETZEL, R., 1941.—"Zum Wirt-Parasit-Verhältnis des Fuchslungenwurmes *Crenosoma vulpis*." 49 (1/2), 28-30; (3), 40-42.
 b. SCHMID, F. & KRAUSE, M., 1941.—"Die Wirkung von Wurmmitteln auf die verschiedenen Strongylidenarten des Pferdes. II. Arsinosolvin und Equivermon." 49 (11), 132-133.
 c. KARMANN, P., 1941.—"Über die Lungenwurmseuche der Schafe in der Rheinprovinz, im besonderen über den Nachweis der Lungenwurm-larven in Schafkot." 49 (11), 136-137.
 d. LÁSZLÓ, F., 1941.—"Echinococcus in der Nebenniere von Schweinen." 49 (40), 488-489.

(130a) Wetzel's experiments show that the fox lungworm, *Crenosoma vulpis*, will develop equally well in the dog. As, however, dogs do not eat snails they cannot act as reservoir hosts. Cats, rats and mice are naturally resistant to *C. vulpis* infection, but the raccoon is a likely carrier. Wetzel was unable to produce an age immunity or an acquired immunity to this parasite in foxes and dogs. A.E.F.

(130b) Schmid & Krause report on the efficacy of Arsinosolvin given intravenously and Equivermon given orally against strongyles in horses. Both were effective against *Trichonema* spp. Arsinosolvin had a slight effect on *Strongylus vulgaris* but none on *S. equinus* and *S. edentatus*, while Equivermon slightly reduced *S. edentatus* infection but had no effect on *S. vulgaris* and *S. equinus*. No increased effect was obtained from a combination of both treatments. A.E.F.

* * * Original not available for checking or abstracting.

(130c) Karmann reports severe infections with *Dictyocaulus filaria* in sheep in the Rhine district in the summer of 1940. Lambs and yearlings were principally affected. Methods for the isolation of lungworm larvae from faeces are reviewed.

A.E.F.

131—Deutsche Tropenmedizinische Zeitschrift.

- *a. MOHR, W., 1941.—“Wurminfektionen bei den rückgekehrten Afrika-deutschen.” 45 (10), 307-315.

(131a) Mohr discusses the helminthic infections found in Germans returned from Africa, based on information obtained from the Hamburg Tropical Institute. Hookworm disease is by far the most important. [From an abstract in Berl. u. Münch. tierärztl. Wschr., 1941, p. 473.] A.E.F.

132—Geneeskundig Tijdschrift voor Nederlandsch-Indië.

- a. KARIADI, 1941.—“*A. hyrcanus* ‘X’ en filariasis malayi te Martapoera.” 81 (3), 107-118. [English summary.]

(132a) Kariadi has found that a variety, “X”, of *Anopheles hyrcanus* is abundant at Martapoera, and is an efficient carrier of *Filaria malayi*, having a natural infection index of 7% and an artificial index of 78%.

B.G.P.

133—Great Basin Naturalist.

- a. THORNE, G., 1941.—“Some nematodes of the family Tylenchidae which do not possess a valvular median esophageal bulb.” 2 (2), 37-85.

(133a) Thorne gives technical descriptions and discusses the systematics of a number of tylenchoid, spear-bearing eelworms, mostly found associated with the roots of plants, which lack a median muscular oesophageal bulb. Three new subfamilies are erected, namely, Neotylenchinae, Nothotylenchinae and Paurodontinae, in each of which new genera, new species and new combinations are described as follows. NEOTYLENCHINAE; *Neotylenchus acutus* n. sp., *N. arcuatus* n. sp., *N. intermedius* (Christie) n. comb., *N. coprophagus* (Goodey, 1938) n. comb., *Deladenus* n.g., *D. durus* (Cobb, 1922) n. comb., *D. obesus* n. sp.; PAURODONTINAE; *Paurodontus gracilis* n.g., n. sp., *P. densus* n. sp., *P. apiticus* n. sp., *P. niger* n. sp., *Stictylus asymmetricus* n.g., n. sp., *S. obtusus* n. sp.; NOTHOTYLENCHINAE; *Nothotylenchus acris* n.g., n. sp., *N. affinis* n. sp., *N. cylindricollis* n. sp., *Boleodorus thylactus* n.g., n. sp., *B. clavicaudatus* n. sp., *Thada striata* n.g., n. sp., *T. carcellata* n. sp. The paper is illustrated with 8 plates of excellent drawings. T.G.

134—Hospital. Rio de Janeiro.

- *a. PEDROSA, X. & SUCENA, A., 1941.—“Quisto hidático do fígado.” 19, 57-67.

135—Indian Journal of Pediatrics.

- a. DEBDAS, N. G., 1941.—“Intestinal obstruction caused by roundworms.” 8 (29), 35-38.

* Original not available for checking or abstracting.

136—Indian Journal of Veterinary Science and Animal Husbandry.

- a. MALKANI, P. G. & PRASAD, G., 1941.—“Nasal schistosomiasis in goats.” 11 (2), 73-77.
- b. VAIDYANATHAN, S. N., 1941.—“*Capillaria bovis* Schnyder, 1906 from the intestine of a calf at Madras.” 11 (2), 94-97.
- c. KAURA, R. L., 1941.—“Common diseases of young calves and their control in India.” 11 (2), 122-138.

(136a) The occurrence of *Schistosoma nasalis* in goats in India is now recorded. The clinical features and morbid histology are described. R.T.L.

(136c) In India calves suffer from: parasitic pneumonia due to *Dictyocaulus viviparus*; parasitic gastritis due chiefly to *Haemonchus contortus* and *Mecistocirrus digitatus*; intestinal infections with *Ascaris vitulorum* and *Moniezia expansa*; and eye infestations with *Thelazia rhodesi*.

R.T.L.

137—Indian Medical Gazette.

- a. GREVAL, S. D. S., CHANDRA, S. N. & DAS, B. C., 1941.—“A note on complement fixation in hydatid disease and associated considerations.” 76 (7), 412-413.

(137a) Following up a description of a serological technique for the laboratory diagnosis of hydatid [see Helm. Abs., Vol. X, No. 16a] Greval, Chandra & Das give an account of some recent positive findings. Positive sera are recorded from Calcutta, the Madras Presidency and the Punjab; diagnosis of most of these was later confirmed surgically. Hydatid infection of sheep is quite common in parts of India, apparently less common in dogs.

P.A.C.

138—Indian Veterinary Journal.

- a. AYYAR, V. V. V., 1941.—“A case of multiple hydatid cysts in the internal organs of a cow.” 18 (1), 27-28.
- b. RAO, K. S. P., 1941.—“Worm in the anterior chamber of the eye of a bullock.” 18 (1), p. 35.

139—Japanese Journal of Veterinary Science.

- a. NAGAHATA, S., FUJITA, J. & IKEGAYA, S., 1941.—“On the experimental haemonchosis of sheep.” 3 (2), 155-190. [In Japanese: English summary pp. 189-190.]

(139a) Of 3 sheep on a weighed diet of wheat bran, barley, hay and minerals, and 3 on hay only, 2 in each group, were experimentally infested with *Haemonchus*. The poorly fed sheep showed no weight increase and the 2 infested ones developed egg-counts in the region of 13,000 per g. The well-fed sheep put on weight and the 2 infested ones developed egg-counts of only a few hundred per g.: worm-counts were in agreement. The heavily infested sheep showed markedly reduced specific gravity of blood, red cells, and haemoglobin; slightly reduced white cells and platelets; and the complete disappearance of eosinophiles in one case. The serum protein was reduced, the reduction occurring in the albumin and euglobulin fractions but not in the pseudoglobulin. Thus, severe anaemia and malnutrition are the main features of haemonchosis. The data are given in full in a series of 11 tables (in English) in the Japanese text.

B.G.P.

140—Journal of Agricultural Research.

- a. LUCKER, J. T., 1941.—“Survival and development at low temperatures of eggs and preinfective larvae of horse strongyles.” 63 (4), 193-218.

(140a) Lucker gives detailed results of a number of laboratory and field experiments designed to test the effects of continuous low temperature and alternate freezing and thawing on the eggs (unembryonated and embryonated) and pre-infective larvae of horse strongylids, predominantly cyathostomes. Specimen results were as follows: unembryonated eggs are more resistant than embryonated, but are nearly all killed after 50 days at 14° to 21° F. At the same temperature over 90% of pre-infective larvae are killed in 4 days. Of the same larvae, about 15% were killed by 36° F. in 2 weeks, 50 to 75% in 6 weeks, and over 90% in 3 months. Field temperatures fluctuating across freezing point reduced the yield of infective larvae but did not sterilize the cultures. B.G.P.

141—Journal of the American Medical Association.

- a. WYRENS, R. G., TILLISCH, J. H. & MAGATH, T. B., 1941.—“Trichinosis. Report of nineteen cases of clinical infection and twenty-one cases of asymptomatic infection.” 117 (6), 428-432.
- b. SANDGROUND, J. H., 1941.—“Coma following medication with tetrachlorethylene.” 117 (6), 440-441.

142—Journal of the American Veterinary Medical Association.

- a. SMITH, C. H., 1941.—“Internal worm parasites of cattle in northern Indiana.” [Abstract of a paper presented at the 78th Annual Meeting of the American Veterinary Medical Association, Indianapolis, August, 1941.] 99 (774), 202-203.
- b. SCHMIDT, H., CHRISTIAN, T. T. & SMOTHERMAN, W. M., 1941.—“Is phenothiazine poisonous to horses?” 99 (774), 225-229.
- c. PORTER, D. A., SIMMS, B. T., & CAUTHEN, G. E., 1941.—“Field tests with phenothiazine as an anthelmintic in cattle.” 99 (775), 272-278.

(142a) In northern Indiana the commoner helminths in dairy and beef cattle are *Ostertagia ostertagi*, *Oesophagostomum radiatum*, *Setaria labiata-papillosa* and *Trichuris* sp. Diarrhoea, which is particularly common in cases infected with *O. ostertagi*, may be fatal in one to three weeks if profuse. R.T.L.

(142b) Schmidt & co-workers report several cases of toxic reaction to 60 g. doses of phenothiazine in horses, some of them fatal. Post-mortem findings included icterus, spleen soft and enlarged, parenchymatous degeneration of kidneys with (in one case) coagulated masses in the hilus and ureter. In an added comment Schwartz points out that, according to recent literature, 600 horses have been treated without ill effects, and quotes Knowles & Blount recommending 30 g. doses. B.G.P.

(142c) Porter & co-workers give the results of treating (i) 9 bulls with phenothiazine at 0.12 to 0.49 g. per lb. body weight, and (ii) 14 yearling cattle with phenothiazine at 0.2 g. per lb. following an ineffective dose of cunic (copper & nicotine sulphates). Criteria were the percentage volume of packed red cells in the blood, and egg-counts from faeces, the following groups of eggs being distinguished: (i) *Haemonchus* and *Oesophagostomum*.

mum, (ii) *Cooperia*, *Trichostrongylus* and *Ostertagia*, (iii) hookworm. The first and third groups of eggs practically disappeared after treatment and the second group was greatly reduced (other experiments have indicated that *Cooperia* is little affected by phenothiazine). The drug is equally effective in capsules and mixed with the food, but the latter method is more troublesome. Egg counts remained low for some 18 weeks after treatment.

B.G.P.

143—Journal of the Council for Scientific and Industrial Research. Australia.

- a. KAUZAL, G. P., 1941.—“A note on the failure of phenothiazine as an anthelmintic against *Strongyloides papillosus* of sheep.” 14 (3), 218-219.

144—Journal. Indian Medical Association.

- a. RAY, P. N., ET AL., 1941.—“A symposium on surgical complications of filariasis.” 10 (8), 331-341.

145—Journal of Laboratory and Clinical Medicine.

- a. BODON, G. R., 1941.—“A case of *Strongyloides stercoralis* infestation.” 26 (10), 1608-1611.

146—Journal de Médecine de Lyon.

- *a. GARIN, C., ROMAN, E. & MOUSSESON, 1941.—“Ankylostomose chez un Guadeloupéen. Présence d'*Ankylostoma duodenale* à la Guadeloupe.” 22, p. 107.

147—Journal of Parasitology.

- a. RIPPLE, R. C., 1941.—“Studies on the gapeworm *Syngamus trachea* (Montagu, 1811) in robins and chickens.” 27 (5), 369-374.
- b. LEONARD, A. B. & LEONARD, A. E., 1941.—“The intestinal phase of the resistance of rabbits to the larvae of *Taenia pisiformis*.” 27 (5), 375-378.
- c. WETMORE, P. W., 1941.—“Blood parasites of birds of the District of Columbia and Patuxent Research Refuge vicinity.” 27 (5), 379-393.
- d. HOPKINS, S. H., 1941.—“New genera and species of the family Monorchidae (Trematoda), with a discussion of the excretory system.” 27 (5), 395-407.
- e. FARR, M. M. & LUTTERMOSER, G. W., 1941.—“Comparative efficiency of zinc sulfate and sugar solutions for the simultaneous flotation of coccidial oöcysts and helminth eggs.” 27 (5), 417-424.
- f. CORT, W. W., OLIVIER, L. & BRACKETT, S., 1941.—“The relation of physid and planorbid snails to the life cycle of the strigeid trematode, *Cotylurus flabelliformis* (Faust, 1917).” 27 (5), 437-448.
- g. TETLEY, J. H., 1941.—“Spicule length in *Cooperia curticei* as a measure of favorable intestinal environment for this intestinal nematode of sheep.” 27 (5), 449-452.
- h. TETLEY, J. H., 1941.—“*Haemonchus contortus* eggs: comparison of those in utero with those recovered from feces, and a statistical method for identifying *H. contortus* eggs in mixed infections.” 27 (5), 453-463.

(147a) Ripple has established the specific identity of *Syngamus tenuispiculum*, a parasite of the robin, with *S. trachea*. Though morphologically indistinguishable there is a physiological difference for cross infections are

* Original not available for checking or abstracting.

difficult. He was able to infect chickens with the robin strain, with some difficulty, using an earthworm as vector. It is not certain if the infections worked in the opposite direction. It is improbable that the robin is of any economic importance in spreading the parasite among domestic birds.

P.A.C.

(147b) Leonard & Leonard find that there are two distinct phases in the resistance of rabbits immunized against *Cysticercus pisiformis*. There is a strong tissue reaction in the wall of the intestine which succeeds in dealing with a very large percentage of the onchospheres which hatch. Those which manage to penetrate the tissue and pass this filter meet with a parenteral resistance which disposes of most of them. When immune animals are infected with artificially hatched larvae by direct inoculation into the mesenteric vein the first filter is side-stepped and a large proportion succeed in reaching the liver, where however they are attacked by the second phase of the resistance. There is no evidence at the present time of the actual mechanism of the resistance.

P.A.C.

(147c) Wetmore has examined the blood of 618 miscellaneous birds captured in the District of Columbia, and has recovered microfilariae from 5% of them. New host records are *Cathartes aura septentrionalis*, *Otus asio naevius*, *Dumetella carolinensis*, *Hylocichla guttata faxoni* and *Turdus migratorius migratorius*.

P.A.C.

(147d) Hopkins creates two new genera of Monorchidae for two new species found in marine fishes at Beaufort, N.C. These are (i) *Diplomonorchis* n.g. for *D. leiostomi* n. sp. from *Leiostomus xanthurus*. This genus differs from *Monorchoides* in having an undivided instead of a Y-shaped excretory vesicle, while the yolk glands lie in the posterior half of the body. (ii) *Postmonorchis* n.g. for *P. orthopristis* n. sp. from *Orthopristis chrysopterus* and *Leiostomus xanthurus*. In this genus most of the uterine coils lie outside the caeca and none behind the single testis: the genital pore is median, the excretory vesicle is undivided and the yolk glands are posterior to the ventral sucker. A key is provided for the 13 genera of Monorchidae. Two, however, are doubtfully included, viz., *Bivesicula* and *Bivesiculoides*, as they lack the characteristic spiny cirrus and blind metraterm pouch. *Proctotrema* is considered a synonym of *Genolopa*. *Genolopa longovatum* n. sp. and *G. beauforti* n. sp. are both described from *Orthopristis chrysopterus*. All members of the Monorchidae have the same flame cell formula and as this occurs in genera of several other families it is regarded as representing a primitive condition rather than close genetic relationship.

R.T.L.

(147e) Farr & Luttermoser compared the efficiency of zinc sulphate and sugar solutions using a modified D.C.F. technique for the simultaneous flotation of chicken *Eimeria* spp. oöcysts and *Ascaridia lineata* and *Heterakis gallinae* ova in five soil and five faecal samples. They report the greater efficiency of zinc sulphate solutions of specific gravity 1.200 for the centrifugal flotation of the *Eimeria* spp. oöcysts than sugar solution of specific gravity 1.270, though the latter was more efficient for the flotation of the helminth ova. A sugar solution of specific gravity 1.200 compared with that of 1.270 appeared to be slightly less efficient in the flotation of helminth ova, whilst the zinc sulphate of similar specific gravity appeared to be more efficient for the flotation of oöcysts. From 10 to 88% of the oöcysts and ova

inoculated into soil and faecal samples were recovered by the modified D.C.F. technique used in the above experiment. M.R.Y.

(147g) Tetley has used spicule-length as an index of growth of *Cooperia curticei* in various regions of the jejunum in 3 sheep. Statistically, he found only random differences between the means for different regions in any one sheep, but in one sheep the spicules were significantly shorter than in the other two. He interprets this as meaning that all regions are equally acceptable to the parasite. B.G.P.

(147h) From measurements of large numbers of intra-uterine and faecal eggs of *Haemonchus contortus*, Tetley concludes that the eggs swell slightly after being laid. The enlargement is more apparent in the width than in the length, the mean widths being: uterine, $41.25 \pm 0.05 \mu$; faecal, $44.90 \pm 0.11 \mu$. As compared with eggs of other genera, those of *H. contortus* overlap some as to length and others as to width; but if length is plotted against width they occupy a fairly well-defined group in the resulting distribution diagram, and this fact can be used for differentiating them in mixed infections. B.G.P.

148—Journal of the Philippine Islands Medical Association.

- a. VITUG, W., CRUZ, J. R. & BAUTISTA, L. D., 1941.—“Schistosomiasis involving the brain: two case reports.” 21 (6), 291-298.

149—Journal of the Royal Naval Medical Service.

- a. WOOLLEY, E. J. S., 1941.—“A case of paragonimiasis.” 27 (3), 297-298.

150—Journal of the Washington Academy of Sciences.

- a. CHITWOOD, B. G. & BLANTON, F. S., 1941.—“An evaluation of the results of treatments given narcissus bulbs for the control of the nematode *Ditylenchus dipsaci* (Kühn) Filipjev.” 31 (7), 296-308.

(150a) Chitwood & Blanton give an account of hot-water and vapour heat treatments of narcissus bulbs for the destruction of the eelworm, *Ditylenchus dipsaci*. They state that vapour heat treatment gives no advantages over hot-water treatment. They have submitted their findings to statistical analysis in order to arrive at a measure of the efficacy of the various treatments, times, temperatures, etc., applied. Their final conclusion is that bulbs should be treated in 0.5% formalin for four hours at 110° F. in order to attain a high degree of control. T.G.

151—Jugoslovenski Veterinarski Glasnik.

- a. DELAK, M., 1941.—“Djelovanje bijelog luka (*Allium sativum*) na konjsku glistu (*Parascaris equorum*) in vitro.” 21 (1), 1-12. [German summary pp. 11-12.]

(151a) Delak has examined the action *in vitro* of garlic oil on *Parascaris equorum*. In dilute solutions, up to 15%, there was first considerable stimulation appearing as increased tonus and speeding up in the reaction time and amount of contraction. This was followed slowly by paralysis and death. In higher concentrations, 20 to 30%, the stimulating effect was very short-lived and paralysis and death followed quickly. These reactions remained

true whether the garlic oil was freshly extracted or had been subjected to some heat, but were most marked with fresh oil. He is of the opinion that it might be valuable as an anthelmintic.

P.A.C.

152—Kentucky Medical Journal.

- *a. GLING, H. H., 1941.—“A clinical study of intestinal parasites.” 39, 222-224.

153—Lancet.

- a. ANON, 1941.—“Trichiniasis in 1922 and 1941.” Year 1941, 1 (6131), 284-285.
b. NICOLSON, E. L., 1941.—“A pelvic hydatid cyst.” Year 1941, 1 (6147), p. 784.

154—Medical Bulletin of the Veterans' Administration.

- a. MOOREHEAD, M. T., 1941.—“Trichinosis simulating sarcoma of the chest wall.” 17 (3), 303-305.

155—Medical Parasitology and Parasitic Diseases.

- a. VASILKOVA, Z. G., 1941.—[Evaluation of the contamination of vegetables with eggs of helminths in sewage farms with different methods of cultivation.] 10 (2), 217-225. [In Russian.]
b. ZHIVILOVA, A. M., 1941.—[Comparative evaluation of methods for helminthological examination of the soil.] 10 (2), 225-227. [In Russian.]
c. HEFTER, V. A., 1941.—[Comparative evaluation of methods for helminthological examination of vegetables.] 10 (2), 228-231. [In Russian.]
d. ALF, S. L., 1941.—[Vegetables from sewage farms evaluated from the point of view of sanitary helminthology.] 10 (2), 232-236. [In Russian.]

(155a, b, c & d) This series of papers is concerned with the contamination with ascaris eggs of vegetables grown at sewage farms. Zhivilova (b) describes various methods of recovering *Ascaris* and *Trichuris* eggs from soil, based on Spindler's (1929) technique: 30% antiformin and 48% NaNO_3 solutions were the best two. Hefter (c) best recovers eggs from vegetables by soaking them 24 hours, wire-brushing, and filtering the suspension through a plankton filter. Vasilkova (a) applied these methods to the examination of vegetables from sewage farms and found such contaminations as 7 eggs per 100 cucumbers, 16 per 100 tomatoes, 2 per 100 carrots, the degree of contamination depending on the extent of contact with crude effluent. She recommends sedimentation of the latter for 2 hours before use (with subsequent composting of the sludge), and careful attention to such details as height of ridges and period of irrigation, which should be under State sanitary control. Alf (d) sums up in terms of rational agrotechnics.

B.G.P.

156—Medicina. México.

- *a. HENRIQUEZ, E. & SANCHEZ YLLADES, L., 1941.—“Eosinofilia exagerada en tres casos de triquinosis familiar.” 21, 25-35.

157—Medicina Española.

- *a. BARCIA GOYANES, J. J., 1941.—“Un caso de quiste hidatídico del cerebro intervenido según la técnica de Schroeder.” 5, 1-8.
*b. CARALPS, 1941.—“Algunos comentarios sobre el tratamiento de los quistes hidatídicos supurados del pulmón.” 5, 180-189.

* Original not available for checking or abstracting.

158—Medicina Sperimentale. Archivio Italiano.

- *a. STARKOFF, O., 1941.—“Eosinofilia sperimentale ematica e midollare da ascaridi.” 8, 17-32.

159—Memorias do Instituto Oswaldo Cruz.

- a. LENT, H. & FREITAS, J. F. TEIXEIRA DE, 1941.—“Estado atual de três espécies do gênero *Cephalogonimus* Poirier, 1886 (Trematoda).” Ano 1940, 35 (3), 515-524.
- b. TRAVASSOS, L. & FREITAS, J. F. TEIXEIRA DE, 1941.—“Relatório da excursão científica realizada na zona da Estrada de Ferro Noroeste do Brasil em Julho de 1939.” Ano 1940, 35 (3), 525-556.
- c. FREITAS, J. F. TEIXEIRA DE, 1941.—“Novo trematodeo parasito de peixe de água doce.” Ano 1940, 35 (3), 569-570.
- d. TRAVASSOS, L., 1941.—“Espécies do gênero *Ornithostrongylus* Travassos, 1914, capturadas em Salobra (Estado de Mato Grosso) (Nematoda: Strongyloidea).” Ano 1940, 35 (3), 571-574.
- e. FREITAS, J. F. TEIXEIRA DE, 1941.—“*Cathaemasioides callis* n.g., n. sp., trematodeo parasito de *Euxenura galeata* (Molina).” Ano 1940, 35 (3), 589-592.
- f. FREITAS, J. F. TEIXEIRA DE, 1941.—“Sobre um interessante nematodeo parasito de reptil (Spiruroidea).” Ano 1940, 35 (3), 603-605.
- g. TRAVASSOS, L., 1941.—“Relatório da quarta excursão do Instituto Oswaldo Cruz a zona da Estrada de Ferro Noroeste do Brasil, realizada em Agosto e Setembro de 1940.” Ano 1940, 35 (4), 697-722.

(159a) Lent & Freitas investigate the status of *Cephalogonimus retusus* (Duj., 1845), *C. europaeus* Blaizot, 1910 and *C. americanus* Stafford, 1902 and find them distinct. Lists of synonyms are given, also a redescription of the last species with figures showing the extent of its variations. N.G.S.

(159b) During a collecting expedition to the district traversed by the North Western Railway of Brazil, 432 vertebrates were collected and from 173 of these helminths were obtained. Brief notes are given which usually indicate merely the genus to which the parasite belongs. R.T.L.

(159c) Freitas describes *Creptotrema dissimilis* n. sp. (Allocreadiidae) from the intestine of a Brazilian fresh-water fish, *Tetragonopterus argenteus*. The wide variations between individuals from the same host and at different stages of maturity are figured. N.G.S.

(159d) Five species of *Ornithostrongylus* have been identified in material collected in Salobra in 1938 to 1939. Of these 2 are known, viz., *O. fariai*, *O. almeidai*; and 3 are new, viz., *O. iheringi* n. sp. in *Columbigallina talpacoti*, *Scardafella squamata* and *Columbina picui*; *O. salobrensis* n. sp. in *Leptoptila verreauxi ochroptera*; and *O. minutus* n. sp. in *Claravis pretiosa*. Each new form is described and illustrated. R.T.L.

(159e) A new trematode genus is described by Freitas from a Brazilian stork. *Cathaemasioides callis* n.g., n. sp. is placed in the sub-family Omphalometrininae which is included in the family Echinostomidae, though the sub-family is considered transitional between the typical forms of this family and those of the Fasciolidae. N.G.S.

(159f) Freitas creates the species and genus *Salobrella intermedia* n.g., n. sp. for a nematode parasite of the small intestine of a snake, *Tropido-*

* Original not available for checking or abstracting.

notus spinulosus, in Mato Grosso, Brazil. It is a spirurid parasite but it is necessary to create a new family, Salobrellidae, to house the new genus. It approximates in many ways to the Oxyuroidea—in the possession of a single spicule, the degree of sexual dimorphism and in the short life of the male. It differs however in the shape of the oesophagus which is divided into 2 parts with a bulb, and in the arrangement of the female genitalia. The vulva opens just behind the excretory pore. The ovijector has a muscular part communicating with a long vestibule. The uterus contains a large number of eggs which are embryonating. P.A.C.

(159g) During this expedition, 257 animals were examined for helminths. The hosts are listed and a preliminary indication of the genus of each helminth collected is given. R.T.L.

160—Minerva Medica. Torino.

- *a. LURIDIANA, P., 1941.—“La vomica e l'antivomica nella idatidiosi polmonare.” Anno 1941, 1, 242-249.

161—Miscellaneous Publications. United States Department of Agriculture.

- a. TYLER, J., 1941.—“Plants reported resistant or tolerant to root knot nematode infestation.” No. 406, 91 pp.

(161a) This is a compilation of reports on the resistance of over 400 species of plants to the root-knot nematode *Heterodera marioni*. In her introductory remarks Tyler discusses the problems involved in the study of resistance, defines the terms susceptibility, resistance, tolerance and immunity and makes suggestions for the standardization of tests and of reports on root-knot resistance. The reports are arranged alphabetically under the scientific names of the plants, with full references to the source; the locality where the observation was made is noted, and there is comment by the editor where necessary. Finally, tentative lists are given of 28 plants which may be recommended to growers as resistant and 15 recommended with reservations, and there is a bibliography of 269 references. M.T.F.

162—Mycologia.

- a. DRECHSLER, C., 1941.—“Four phycomycetes destructive to nematodes and rhizopods.” 33 (3), 248-269.

(162a) Drechsler describes and figures a new phycomycetous fungus obtained from leaf mould which captures and destroys small soil nematodes when cultured on an agar medium. It belongs to the Zoöpagaceae and is called *Cystopage lateralis* n.g., n. sp. T.G.

163—Nervenarzt.

- *a. LOESSL, J. v. & PAP, Z. v., 1941.—[Eine ungewöhnlich grosse Echinokokkuscyste im Gehirn.] 114, p. 214.

* Original not available for checking or abstracting.

164—North American Veterinarian.

- a. HABERMANN, R. T., HARWOOD, P. D. & HUNT, W. H., 1941.—“Critical tests with phenothiazine as an anthelmintic in horses.” 22 (2), 85-92.
- b. STUBBS, E. L. & LOVE, W. G., 1941.—“Studies on sensitization: its possible relationship to periodic ophthalmia.” 22 (9), 539-542.

(164a) Habermann & co-workers have examined the effects of doses of 50 to 100 g. phenothiazine in 11 horses by the “critical” method (i.e., worm-counts in faeces after treatment and again at post-mortem). They found that over 99% of 362,000 cylicostomes, 96% of 137 strongyles and 72% of 40 ascarids were removed. The drug was ineffective against Oxyuris, bots, and Habronema. Three horses were given doses of 500 g. (repeated in one case after 43 days) without serious symptoms of toxicity. Two horses given 1,000 g. (about 1 g. per lb.) died in 3 days showing haemorrhages in the myocardium, pyloric region of stomach, and liver; the kidneys were congested. Microscopic examination showed congestion of lungs, kidneys and liver, with extensive cloudy swelling in the latter: there was no erosion of ureteral epithelium. B.G.P.

(164b) Stubbs & Love have obtained positive skin reactions in horses tested with protein extracts (Coca’s method) of Strongylus or Ascaris or certain food constituents. Maximum reactions which were obtained with Strongylus extracts occurred 5 hours after injection. Rabbits sensitized to Strongylus protein by intramuscular injections gave positive ophthalmic reactions when the test fluid was introduced into the eye by subscleral injection. No ophthalmic reactions were obtained when the extract was injected intravenously into the treated animals. Until further results are obtained the authors are unwilling to comment on the possible relationship of sensitization to ophthalmia. W.P.R.

165—Okayama-Igakkaï-Zasshi.

- a. ITAKURA, J., 1941.—“Ein Fall von *Ligula mansoni* beim Menschen.” 53 (1), 125-131. [In Japanese: German summary p. 131.]

166—Papéis Avulsos do Departamento de Zoologia, Secretaria da Agricultura, São Paulo.

- a. FREITAS, J. F. TEIXEIRA DE & LENT, H., 1941.—“Contribuição ao estudo do gênero *Hedruris* Nitzsch, 1821 (Nematoda).” 1, 121-141.

(166a) Freitas & Lent review the genus *Hedruris* and describe *H. scabra* n. sp., a parasite of the stomach of the whistling frog *Leptodactylus ocellatus* in Montevideo. The new species can be distinguished mainly by the presence of cervical papillae and by the presence of cuticular scales irregularly scattered on the tail. They create *H. chandleri* nom. nov. for some specimens described by Chandler (1919) from the stomach of *Triturus torosus* in North America and assigned to the species *H. siredonis*. These worms are different from those already belonging to this species and can be distinguished by the relative positions of the excretory pore and the nerve ring and by the shape of the spicules. P.A.C.

167—Pennsylvania Medical Journal.

- a. MAGATH, T. B., 1941.—“Hydatid disease (echinococcus) in North America.” 44 (7), 813-819.

168—Phytopathology.

- a. HARRISON, A. L. & YOUNG, P. A., 1941.—“Effect of root-knot nematode on tomato wilt.” 31 (8), 749-752.
- b. SMITH, A. L. & TAYLOR, A. L., 1941.—“Nematode distribution in the 1940 regional cotton-wilt plots.” [Abstract of a paper presented at the 1941 Annual Meeting of the Southern Division of the American Phytopathological Society, Atlanta, February, 1941.] 31 (8), p. 771.
- c. DRECHSLER, C., 1941.—“Some hyphomycetes parasitic on free-living terricolous nematodes.” 31 (9), 773-802.
- d. CHITWOOD, B. G., 1941.—“Soil treatments with volatile liquids for control of nematodes.” 31 (9), 818-824.
- e. LINFORD, M. B., 1941.—“The feeding of nematodes before and during their entry into roots.” [Abstract of a paper presented at the 1941 Annual Meeting of the Pacific Division of the American Phytopathological Society, Pasadena, California, June, 1941.] 31 (9), p. 862.
- f. LINFORD, M. B., 1941.—“Some soil-moisture relationships of the root-knot nematode.” [Abstract of a paper presented at the 1941 Annual Meeting of the Pacific Division of the American Phytopathological Society, Pasadena, California, June, 1941.] 31 (9), p. 862.

(168a) Harrison & Young describe how the wilt fungus *Fusarium lycopersici* caused almost total loss in large areas of a tomato field in Texas planted with the wilt-resistant variety “Marglobe”. A distinct correlation was noted between the number of root-knots caused by *Heterodera marioni* and the severity of wilt. The most severely wilted plants were growing on ground where varieties of cowpea very susceptible to root-knot had grown the previous season, while the healthiest tomatoes followed peanuts which are very resistant to root-knot. In a variety trial only wilt-immune strains of tomato survived in a field heavily infested with the wilt and root-knot organisms. Most varieties showed a serious decrease in wilt-resistance, apparently because of root-knot, but one hybrid remained immune even when heavily infected with *H. marioni*. M.T.F.

(168b) Smith & Taylor present the results of a survey carried out in 1940 on the possible relationship between the presence of *Heterodera marioni* and *Anguillulina pratensis* in the roots and the occurrence of *Fusarium* wilt in cotton plants at 15 locations in 8 States. In general there was a negative relationship between the root-knot infestation and the mean varietal-wilt reaction. The results for 1940 are in agreement with previous regional studies in which relative differences in susceptibility to wilt at different locations are attributable to varying nematode infestations and differences in varietal reaction to a combination of wilt and nematodes. T.G.

(168c) Drechsler describes and illustrates the following new hyphomycetous fungi which have been found to parasitize and destroy certain small free-living soil nematodes on agar plate cultures. *Nematoctonus tylosporus* n.g., n. sp., *N. leiosporus* n. sp., *Acrostalagmus bactrosporus* n. sp., *A. obovatus* n. sp., *Cephalosporium balanoides* n. sp., *Spicaria coccospora* n. sp., *Meria coniospora* n. sp., *Harposporium helicoides* n. sp., *H. oxycoracum* n. sp., *H. diceraeum* n. sp. T.G.

(168d) Chitwood has tested the efficiency of a number of volatile chemicals for the destruction of plant parasitic nematodes when injected into soil. Ethylene chloride is effective against the narcissus eelworm when injected in holes 6 to 8 inches deep, 10.5 inches apart in rows 9 inches apart; each hole receiving 10 c.c., the soil afterwards being well watered

and covered with wet sacking. The cost of such treatment is about 110 dollars per acre. For root-knot eelworm a mixture of chloropicrin 1.5 c.c. and ethylene chloride 8.5 c.c. per hole gave the best results with gerberas. The cost is high at 386 dollars per acre. For root-knot and fungi on tomatoes grown outdoors the same mixture gave the best yield, but 10 c.c. of ethylene chloride per hole gave better nematode control with the cost very much lower. Selection of a treatment should probably be based on the expected market value of the crop. T.G.

(168e) Linford briefly reports on the feeding habits of the following root parasitic nematodes, larvae of *Heterodera marioni*, *Rotylenchulus reniformis*, *Pratylenchus pratensis*, *Rotylenchus erythrinae* and *Paratylenchus* sp., all of which begin feeding on the cells of the root surface and continue to feed during entry into roots. Cell walls are punctured by the stylet tip, saliva is injected into the cell followed by a period of the sucking out of cell contents. Cell destruction follows when walls have been weakened by repeated puncture and the nematodes then break into the cells. *Paratylenchus* sp. feeds chiefly at the root surface and on root hairs, less frequently entering the cortex. T.G.

(168f) Egg masses of *Heterodera marioni* were incubated for 10 to 30 days in bolting silk in soil having a moisture equivalent of 39% and wilting coefficient near 28%. Many eggs died at moistures of 23.8% and 25.6%. Most remained alive at 28.6% and 29.8% with slow hatching, but the embryos continued to develop. Hatching increased with increased moisture up to 45%, when it was as rapid as in shallow water. When tomato and cowpea plants were grown in infested soil with moisture nearly low enough to cause wilting few larvae entered the roots: infestation and injury increased greatly when the moisture was increased slightly above the moisture equivalent of the soil and decreased in wetter soil. M.T.F.

169—Plant Disease Reporter.

- a. NEWHALL, A. G., 1941.—“Survival of the onion bulb nematode in New York.” 25 (13), p. 361.
- b. CANNON, O. S., 1941.—“*Heterodera schachtii* found in a Long Island potato field.” 25 (15), p. 408.

(169a) Newhall reports the finding of onions infected with the stem eelworm, *Ditylenchus dipsaci*, in volunteer plants growing amongst wheat, the source of infection most probably being derived from a dump of several bushels of affected bulbs taken from a neighbouring field and later ploughed under. He points out the necessity of burning all infected bulbs, not just allowing them to rot on the ground. T.G.

(169b) Cannon reports considerable damage to a field of potatoes in Nassau County due to a nematode of the *Heterodera schachtii* type. It has apparently caused reduced yields in the vicinity for several years. Dr. B. G. Chitwood is conducting a survey to determine the area infected by the eelworm. M.T.F.

170—Policlinico (Sezione Pratica).

- *a. VITTURELLI, D., 1941.—“Di un caso di occlusione delle vie biliari da ascaride guarito con cure mediche.” 48, p. 131.
- *b. IURA, V., 1941.—“Dracunculosi in Italia.” 48, 473-480.

171—Presse Médicale.

- *a. COUTELEN, F., 1941.—“Fréquence et importance du parasitisme intestinal au cours de la première enfance ; sa place dans la médecine préventive ; résultats statistiques de 1,487 examens coprologiques complets, pratiqués chez 649 enfants de 2 à 6 ans, fréquentant des écoles maternelles.” 49, 29-30.

172—Proceedings of the American Society for Horticultural Science.

- a. BAILEY, D. M., 1941.—“The seedling test method for root-knot-nematode resistance.” 38, 573-575.

(172a) By analysis of the results of preliminary experiments Bailey shows that, for testing the resistance of tomato varieties to root-knot, 30 to 40 seeds per 2 inch pot, sown in soil containing an inoculum of chopped galled roots, is satisfactory. The plants are examined after 19 to 21 days and classified according to the injury sustained. Using this method 5 species of *Lycopersicum* were tested. No tolerance was shown by *L. glandulosum*, *L. hirsutum* and *L. pimpinellifolium*, or by 95 commercial varieties and 420 seed lots (with 3 possible exceptions) of *L. esculentum*. *L. peruvianum* appeared more tolerant than the other species ; 20 out of 299 selections from 11 seed lots were free from galls after 6 months' growth in infested soil. Bailey points out that these results should be considered conservatively on account of the power of the nematode to adapt itself to new hosts.

M.T.F.

173—Proceedings of the Helminthological Society of Washington.

- a. PORTER, D. A., 1941.—“Further tests with unconditioned phenothiazine as an anthelmintic in cattle.” 8 (2), 38-41.
- b. PRICE, E. W. & DIKMANS, G., 1941.—“Adenomatous tumors in the large intestine of cats caused by *Strongyloides tumefaciens* n. sp.” 8 (2), 41-44.
- c. CHITWOOD, B. G., HAASIS, F. A. & BLANTON, F. S., 1941.—“Hot-water-formalin treatment (at 110° to 111° F.) of field-grown and of forced narcissus bulbs infected with the bulb or stem nematode, *Ditylenchus dipsaci*.” 8 (2), 44-50.
- d. GINGRICH, C. E. & HAENSELER, C. M., 1941.—“The use of methyl bromide to control the root-knot nematode, *Heterodera marioni*.” 8 (2), 50-53.
- e. TAYLOR, A. L. & McBETH, C. W., 1941.—“Spot treatments with chlorpicrin and ethylene dichloride for control of root knot.” 8 (2), 53-55.
- f. KRULL, W. H., 1941.—“The number of cercariae of *Fasciola hepatica* developing in snails infected with a single miracidium.” 8 (2), 55-58.
- g. WALLACE, F. G., 1941.—“*Crenosoma microbursa* n. sp. from the skunk.” 8 (2), 58-60.
- McINTOSH, A., 1941.—“A new dilepidid cestode, *Catenotaenia hinsdalei*, from a pocket gopher in California.” 8 (2), 60-62.
- i. SWANSON, L. E., 1941.—“A note on the parasite fauna of Georgia.” 8 (2), 62-63.
- j. MORGAN, B. B., 1941.—“Additional notes on North American Physaloputerinae (Nematoda).” 8 (2), 63-64.

* Original not available for checking or abstracting.

(173a) From critical tests on 4 yearlings and 2 calves and field tests on 2 more calves, Porter found that phenothiazine was fully effective against *Haemonchus*, *Trichostrongylus axei* and *Oesophagostomum*, effective in high doses against *Ostertagia*, and practically ineffective against others. Doses ranged from 8 to 22 g., and worms were counted in faeces after dosing and at post-mortem. B.G.P.

(173b) Price & Dikmans describe *Strongyloides tumefaciens* n. sp. causing tumours, 2 to 10 mm. in diameter, in the mucous membrane throughout the large intestine of the cat. Measurements, which fall within the range of those given for *S. papillosus*, are noted. The new species differs from the parasite of ruminants in that it is more robust, the tail is pointed and the ovaries are simple and recurved. The tumours caused by this parasite are adenomatous and consist of irregular acini of columnar cells distended with exudate. The nodules are supported by a stroma of connective tissue containing lymphoid cells. The adult worms are found in the lumina of the acini and in the stroma. W.P.R.

(173c) Chitwood, Haasis & Blanton report on the efficacy of hot-water-formalin treatment of narcissus bulbs for the control of the bulb eelworm, *Ditylenchus dipsaci*. They have already shown that treatment in 0.5% formalin for 4 hours at 110° to 111° F. is highly efficient [see above No. 150a] and in the present paper additional data on the efficacy of treatments for 3½ and 3 hours are presented. It is also shown that forced bulbs, of the variety King Alfred, were as successfully treated as field-grown bulbs by the same treatments lasting for 4, 3½ and 3 hours. T.G.

(173d) Gingrich & Haenseler tried three methods of applying methyl bromide to soil infected with *Heterodera marioni*. In the first, the methyl bromide was released into a closed chamber containing the soil. When the chamber was relatively full of soil ½ ml. of methyl bromide per cubic foot of chamber killed the nematodes in 3 hours. With smaller proportions of soil a longer time was necessary. The chemical effectively penetrated 8 inches of soil. The second method was the injection of a mixture of 1 volume of methyl bromide to 5 volumes of ethyl alcohol into soil in open containers holding 1 gallon. Five ml. of methyl bromide gave partial control: the alcohol present in the dose required for complete control damaged cucumber seedlings planted 7 days later. Pure methyl bromide injected into soil which was subsequently watered so that the damp surface would act as a "water seal" completely controlled *H. marioni* when applied at the rate of 1½ ml. per gallon jar of soil. No seedling injury resulted, and there was even evidence of growth stimulation. M.T.F.

(173e) Chloropicrin and ethylene dichloride were applied 6 inches below the soil surface on plots infected with root-knot at the spots where plants were to be planted, instead of at equal distances all over the plots. The soil for an area of about a yard round each planting spot was then damped to a depth of 1 or 2 inches to hinder the escape of gas. Five days later watermelon seeds were planted at each planting spot, and were later examined for root-knot. The ethylene dichloride treatments (5, 10 and 15 c.c. per spot) were useless, but 2 c.c., 3 c.c. and three lots of 1 c.c. of chloropicrin per spot all reduced infestation to a highly significant degree as compared with that in plants from untreated spots. By means of "spot"

applications root-knot control in watermelons may be effected with 5 lb. of chloropicrin per acre as compared with 150 lb. if it is applied all over the ground. The method may be used for any crops grown in hills or rows.

M.T.F.

(173f) Of 21 *Pseudosuccinea columella* exposed to infestation with single *Fasciola hepatica* miracidia, Krull found that 8 became infested. Cercariae were first shed on the 68th to 89th day, and shedding lasted from 10 to 77 days, from 14 to 629 cercariae per snail being produced in all. The maximum daily production per snail was from 4 to 204. Most cercariae encysted on the container, few on vegetation, and very few on the water surface or on the snails' shells. Extent of infestation of the digestive gland varied greatly, in some the mantle and other organs being more heavily invaded.

B.G.P.

(173g) Wallace records *Crenosoma microbursa* n. sp. from the bronchi of *Mephitis minnesotae* and gives a key to the 6 species of this genus.

B.G.P.

(173h) McIntosh describes *Catenotaenia linsdalei* n. sp., a cestode parasite of *Thomomys bottae bottae* in California. It occurred in the small intestine. There are now 9 species described in this genus and the new one shows resemblances with *C. dendritica* and *C. goesciuri* in having the excretory system in the form of longitudinal vessels instead of a network. It can be distinguished, however, by the facts that the vagina is not very long and that the uterus develops 40 to 50 branches on each side of the main stem.

P.A.C.

(173i) From post-mortems on sheep, cattle, horses, mules and swine as Moultrie, Georgia, from 1938 to 1941, Swanson lists 47 different kinds of helminths. The *Trichostrongylus* and *Cooperia* of sheep and the cylicostomet of horses were not specifically identified.

R.T.L.

(173j) Morgan has supplemented his previous list of known Physalopterinae in North America and has revised some of the doubtful or unverified species.

R.T.L.

174—Proceedings of the Indian Academy of Sciences. Section B.

- a. KAW, B. L., 1941.—“Studies on the helminth parasites of Kashmir. Part I. Description of some new species of the genus *Pomphorhynchus* Monticelli (1905).” 13 (6), 369-378.

(174a) *Pomphorhynchus kashmirensis* n. sp., from the intestine of a fish, *Nemachilus kashmirensis*, is the first record of a species of this genus for India. A key is given for 4 species of *Pomphorhynchus*, viz., *P. bulbocollis*, *P. perforator*, *P. laevis* and *P. kashmirensis*. Kaw is of opinion that *P. proteus* and *P. tereticollis* are synonyms of *P. laevis*. The presence of young male and female specimens of a species of this genus have been collected from the sub-peritoneal region of *Rana cyanophlyctis*. Hitherto juvenile forms have been reported only from salmonids and smaller cyprinoid fishes.

R.T.L.

175—Proceedings of the United States National Museum.

- a. LINTON, E., 1941.—“Cestode parasites of teleost fishes of the Woods Hole region, Massachusetts.” 90 (3112), 417-442.

(175a) Linton records the presence of 20 cestodes, parasites of teleostean fish, in the district of Woods Hole, Mass., collected over a period of years by various workers. Complete morphological descriptions are not given though interesting anatomical points, not previously noted, are recorded. Ecology, and frequency and distribution within the host are considered in some detail. There are no new species. P.A.C.

176—Proceedings of the Zoological Society of London. Series B. Systematic and Morphological.

- a. WOODLAND, W. N. F., 1941.—“A revision of African and Asiatic forms of the genus *Duthiersia* (Cestoda).” Year 1940, 110 (3/4), 207-218.

(176a) Woodland has evidence of the great degree of variability in specimens of *Duthiersia* spp. which in past days has caused the erection of a number of distinct species. However, the presence of intermediate forms indicates that all the African species must be considered as *D. fimbriata* and all the Indian species as *D. expansa*. The main difference between these two species, i.e., the absence of posterior pore openings of the bothridial grooves in the African forms, can only be discovered after cutting serial sections of the scolex and is therefore not very convenient for identification. The validity of the species *D. sarawakensis* is not settled definitely: the testes number suggests that it may be a distinct species but further evidence may later return it to *D. expansa*. The genus is apparently not represented in Australia. Woodland points out the dangers of erecting new species unless a very large quantity of material is available, so that morphological variation can be assessed at its true value. P.A.C.

177—Queensland Agricultural Journal.

- a. ANON, 1941.—“Parasitic worms in calves.” 56 (1), 57-58.
b. ANON, 1941.—“Red-worms in horses.” 56 (1), p. 58.

178—Revista de Medicina y Cirugía de la Habana.

- *a. CALVO FONSECA, R., 1941.—“Organización de una campaña de deshelminización en la República.” 46, 8-30.

179—Revista de Medicina Tropical y Parasitología, Bacteriología. Clínica y Laboratorio.

- a. CABALLERO Y C., E., 1941.—“Nematodos de los reptiles de México. VI. Descripción de dos nuevas especies.” 7 (3), 31-35.

(179a) The characters of the males of the 5 species of *Strongyluris*, including *S. acaudata* n. sp. from *Sceloporus ferrariperezi*, are tabulated. To the two species of *Spiroxys* already recorded from snakes, *S. susanae* n. sp. is added from *Thamnophis megalops* and *T. angustirostris melanogaster*. R.T.L.

* Original not available for checking or abstracting.

180—Revista Medico-Cirurgica do Brazil.

- *a. NORÓNHA, H. DE, 1941.—“A proposito da *Hymenolepis diminuta* (Rudolphi, 1819).” 49, 51-52

181—Revue Médicale Française d'Extrême-Orient.

- a. GALLIARD, H. & DANG-VAN-NGU, 1941.—“L'infestation de l'homme et du chien par *Fasciolopsis buski* au Tonkin.” 19 (1/2), 31-37.

(181a) Galliard & Dang-Van-Ngu record 5 human cases of *Fasciolopsis buski* in Tonkin, where it is also present in 6 to 47% of pigs. A single specimen was found in the stomach of a dog. B.G.P.

182—Rinascenza Medica.

- *a. LUCCIONI, C., 1941.—“Enorme cisti da echinococco del fegato suppurata, sintomatologicamente muta con note cliniche dominanti di pleurite e ascite.” 18, 95-97.

183—Semana Médica.

- a. BACIGALUPO, J., 1941.—“Observación de huevos anómalos de *Hymenolepis nana*.” Año 48, 1 (7), 397-398.

(183a) Bacigalupo examined 7,360 specimens of *Hymenolepis nana* passed by a human patient after treatment. One of these worms contained eggs typical of *H. nana*, but of a larger size. The embryos within these eggs carried 6 pairs of hooks instead of the usual 3 pairs. The numerical weight of this infection suggests to him the possibility of auto-infection without the eggs passing to the exterior. P.A.C.

184—Taiwan Igakkai Zassi.

- a. TOMITA, S., 1941.—“On local reaction of infected skin, clinical symptoms and changes in blood picture in experimental human infection with *Strongyloides papillosus* and *S. fülleborni*.” 40 (3), 427-443. [In Japanese: English summary pp. 442-443.]
b. MUTO, S., 1941.—“On the results of a faecal examination of patients in Muto Children's Hospital during the last 2 years.” 40 (3), 490-500. [In Japanese: English summary p. 500.]

(184a) Tomita found that infective larvae of *Strongyloides fülleborni*, on penetrating human skin, caused mild itching and erythema. Fever, urticaria and nervous, respiratory and digestive symptoms were noted when the adult parasites commenced egg laying (16 to 32 days after exposure). Eosinophiles showed a moderate increase, reaching a maximum 2 months after infection, thereafter gradually returning to normal. Neutrophiles decreased when the eosinophiles increased. Infections lasted at least 11 months. *S. papillosus* larvae caused marked skin reactions, sometimes with the formation of vesicles from which exudate escaped. However, as these larvae did not give infestations in man, no general symptoms were noted. W.P.R.

185—Tierärztliche Rundschau.

- a. RENK, W., 1941.—“Beobachtungen über Wurmschäden und Alleganbehandlung bei erwachsenen Pferden.” 47 (39), 462-466.
b. STRIXNER, H., 1941.—“Schwein mit hochgradigem Echinokokkenbefall in der Leber.” 47 (41), p. 490.

* Original not available for checking or abstracting.

(185a) Of 134 stallions (105 of heavy and 29 of light breeds) at a stud at Dillenburg (Hessen-Nassau) 90% harboured strongyles. Some of the horses were also infected with ascarids. Heavy horses showed a higher infection than light horses. After treatment of all the animals with Allegan (heavy horses 30 tablets, light horses 25 tablets in small doses of 3 to 4½ tablets at regular intervals over a period of 4 weeks) 61 horses were free from infection, 61 were very lightly and 12 lightly infected. Allegan did not show itself to be satisfactory against ascarids.

A.E.F.

186—Transactions of the American Microscopical Society.

- a. DELAUNE, E. T. & MAYHEW, R. L., 1941.—“Studies on bovine gastrointestinal parasites, III. The blood picture in hookworm and nodular worm infection with some observations on the normal.” 60 (3), 293-308.
- b. WALLACE, H. E., 1941.—“Life history and embryology of *Triganodistomum mutabile* (Cort) (Lissorchiidae, Trematoda).” 60 (3), 309-326.
- c. PENNER, L. R., 1941.—“The status of *Urotrema shillingeri* Price, 1931 (Trematoda: Urotrematidae).” 60 (3), 359-364.
- d. ROUDABUSH, R. L., 1941.—“Abnormalities in *Taenia pisiformis*.” 60 (3), 371-374.
- e. PEERY, H. J., 1941.—“A case of peritoneal moniliformiasis in a fox squirrel.” 60 (3), 375-377.
- f. HUGHES, R. C., 1941.—“A key to the species of tapeworms in *Hymenolepis*.” 60 (3), 378-414.

(186a) Delaune & Mayhew have examined the blood pictures of normal cattle, calves infected with *Oesophagostomum radiatum* or *O. radiatum* and *Bunostomum phlebotomum*, and control animals kept under the same conditions. After infection there was a fall in erythrocytes, a rise in leucocytes, a left shift in the Schilling count and a drop in lymphocytes associated with a rise in stab neutrophils. Eosinophil counts were usually higher after infection and the variation in all cell counts was greater. As a rule the haemoglobin of the controls was 60% whereas the figures for infected animals varied between 40% and 60% (Tallquist scale). A calf naturally infected with *Haemonchus* sp., *Ostertagia* sp., *Cooperia* sp., *Bunostomum* sp. and *Oesophagostomum* sp. showed similar blood changes though the eosinophile count did not rise.

W.P.R.

(186b) *Cercariaeum mutabile* Cort, from *Helisoma* spp., has been reared to the adult stage by Wallace. Free cercariae were eaten by an oligochaete (*Chaetogaster limnaei*) which lives commensally with the snails, and also by *Planaria* sp. After penetrating the gut-wall they encyst as metacercariae and are eaten with the host by a number of fresh-water fishes; adult worms were obtained from *Erimyzon sucetta* which were identified as *Triganodistomum mutabile* (Cort). The morphology of the tail-less cercariae and of the non-appendiculate rediae and of the later stages is described and figured. The genus is placed in the Lissorchiidae which is raised from subfamily rank as being distinct from the Plagiorchiidae.

N.G.S.

(186c) Penner examines the species of *Urotrema* and concludes that *U. lasiurensis* Alicata and *U. minuta* Macy are synonyms of *U. shillingeri* Price. Whether the latter species is itself a synonym of *U. scabridum* (Braun) can only be decided after examination of either the type of the genus or of specimens from the type locality. Though bats are the normal hosts, *U. shillingeri* is best developed in the accidental host *Ondatra zibethica*,

from which material was obtained for a redescription of this highly variable species. N.G.S.

(186d) Roudabush describes abnormalities of the genitalia in two incomplete specimens of *Taenia pisiformis*. There were cases of inversion and of doubling and he notes that a segment with double genitalia often followed one without any or with an incomplete set of organs. One segment had as many as 5 sets of genitalia, some being inverted. P.A.C.

(186f) Hughes has worked out a key for the better identification of the species of *Hymenolepis* adding a very brief and condensed description for each species. Over 300 species are so considered and there are outline drawings, as far as possible copies of the originals, of the hooks. P.A.C.

187—Transactions of the Royal Society of Tropical Medicine and Hygiene.

- a. WOODMAN, H. M. & BOKHARI, A., 1941.—“Studies on *Loa loa* and the first report of *Wuchereria bancrofti* in the Sudan.” 35 (2), 77-92.

(187a) *Acanthocheilonema perstans* has an incidence of over 50% of the population in certain parts of the equatorial province of the Sudan. It is estimated that the *Loa loa* infection rate is over 20% in natives and 23% in British and Syrian officials. The vector is *Chrysops distinctipennis*. This fly is evenly distributed at all seasons throughout the western two-thirds of the district. Of 600 wild specimens 4 were found to be naturally infected. Development was studied experimentally and larvae reached the infective stage after from 12 to 16 days. A reduction of microfilariae in the blood was produced only by methylene blue, but the controls showed so much variation that any conclusions regarding its clinical value were not warranted. It is suggested that *Loa loa* and probably other types of filarial infection may be a factor in predisposing to hernia and hydrocele. Although elephantiasis occurs, no case showed association with *F. bancrofti*, which is here recorded for the first time—in a single case only. R.T.L.

188—Tri-State Medical Journal.

- a. SCHENKEN, J. R. & MOSS, E. S., 1941.—“Intestinal parasitism in the Southern Negro.” 13 (5), 2690-2691.

189—Ugeskrift for Læger.

- *a. GRAM, H. C., 1941.—[One hundred and one cases of tapeworm.] 103, 264-266.

190—Veterinarski Arhiv.

- *a. MIKAČIĆ, D., 1941.—“Parasitska fauna naseg goveda.” 11 (1), 28-50.
 *b. GANSLMAYER R. & GRMOVŠEK, P., 1941.—[Hexachlorethane in the treatment of liver-fluke disease in sheep.] 11 (2), 100-117. [In Croatian.]
 *c. GANSLMAYER, R. & TUNKI, B., 1941.—[Tetrachlorethylene as an anthelmintic for horses.] 11 (4), 149-159. [In Croatian.]

(190a) In 100 Yugoslav cattle widespread disease was caused by liver-fluke, stomach worms and, in calves, ascarids. *Thelazia gulosa* was found in 1% and *T. rhodesi* in 30%. 22% harboured *Gongylonema pulchrum*.

* Original not available for checking or abstracting.

One *Onchocerca* sp. was found in the ligamentum nuchae. [From an abstract in Berl. u. Münch. tierärztl. Wschr., 1941, p. 484.] R.T.L.

(190b) As a war-time economy measure, particularly as avoiding the use of gelatine and glycerin for capsules, Ganslmayer & Grmovšek recommend doses of 6 to 8 g. of hexachlorethane for fluke in sheep, in place of carbon tetrachloride. Tests show that tablets of this drug rapidly break down in sheep's bile and chyle. Doses up to 10 g. are tolerated without toxic symptoms (the local breed weighs 20 to 25 kg.), and those of 6 g. and upwards affect younger as well as adult flukes. The only disadvantage is the price which, dose for dose, is higher for C_2Cl_6 than for CCl_4 . [From an abstract in Tierärztl. Rdsch., 1941, 47, p. 494.] B.G.P.

(190c) 971 worm-ridden farm horses at Agram (Yugoslavia) were given 0.1 c.c. tetrachlorethylene per kg. body weight diluted with paraffin (1:4). Sometimes there were certain narcotic symptoms which lasted for a few hours, but no clearly recognizable toxic symptoms were observed. Inappetence was much less than in comparative tests with tetrachlormethane. The antiparasitic effect against ascarids and *Gastrophilus* was pronounced, but not so good against strongyles. [From an abstract in Tierärztl. Rdsch., 1941, 47, p. 506.] R.T.L.

191—Veterinary Bulletin. U.S. Army. Washington.

- a. WOLFE, W. R. & DENNIS, W. R., 1941.—“Toxemia resulting from the use of phenothiazine.” 35 (3), 171-174.

(191a) Wolfe & Dennis describe severe toxic symptoms in a 6-year-old gelding of 1,300 lb. weight after being given 65 g. phenothiazine. Post-mortem examination showed enlarged heart, kidneys, liver and spleen, the microscopic findings suggesting haemolytic jaundice with haemoglobinuria and possibly haematuria. It is probable that this particular animal happened to be sensitive to the drug. B.G.P.

192—Veterinary Journal.

- a. WHITE, E. G., 1941.—“Chronic focal interstitial hepatitis in the pig.” 97 (5), 155-172.
b. CAWSTON, F. G., 1941.—“The common carriers of South African larval trematodes.” 97 (5), 172-173.

(192a) From 14 replies from meat inspectors who had been sent a questionnaire, White concludes that 10% of $1\frac{1}{2}$ million pigs in the British Isles are infected with the inflammatory lesion of the liver known as “white spot liver” or “milk spot”. From the histological examination of 26 affected livers he is able to distinguish a haemorrhagic type involving 1 to 3 lobules, later fibrosed and radiating along the septa, which should probably be ascribed to migrating *Ascaris* larvae, and larger lymphoid or fibrous capsule types which are often due to flukes or cystic tapeworms. B.G.P.

193—Veterinary Medicine.

- a. SWANSON, L. E. & CARLISLE, B. E., 1941.—“Phenothiazine as an anthelmintic for cattle under field conditions.” 36 (6), 312-315.

(193a) From experience with phenothiazine given to 537 cattle in doses of 30 to 80 g., according to size, Swanson & Carlisle find that it is non-toxic,

easily administered after 18 to 24 hours starvation, and effective as judged by weekly observation over a period of 6 months. The drug was given in oiled gelatine capsules.

B.G.P.

194—Veterinary Record.

- a. LAPAGE, G., 1941.—"Trichiniasis." [Annotation.] 53 (39), 569-572.
- b. STEWART, W. L. & CROFTON, H. D., 1941.—"Parasitic gastritis in cattle." 53 (43), 619-621.

(194b) Parasitic gastritis due mainly to *Trichostrongylus axei* is prevalent in 1 to 2-year-old cattle in the north of England. On Oct. 14th Stewart & Crofton drenched 5 affected cattle with 100 g. phenothiazine, 5 with 100 c.c. of a 5% solution of copper and nicotine sulphates, and kept 5 controls; they repeated the treatments on Nov. 8th, and concluded the experiment on April 18th. Of the two criteria, live weights and egg-counts, the phenothiazine group showed a statistically significant improvement in weight over the controls and a non-significant improvement over the "cunic" group. The egg-counts are in the same sense [but apparently were not analyzed.]

B.G.P.

195—Zeitschrift für Fleisch- und Milchhygiene.

- a. SCHOOP, 1941.—"Derzeitiger Stand der Trichinellenfrage." 51 (24), 315-318.

(195a) Schoop reviews the present day position with regard to the transmission and control of trichinellosis. He emphasises the importance of foxes and badgers in transmitting *Trichinella* to domestic animals, and considers that rats and mice are of very little, if any, importance. It is suggested that the disease could be effectively controlled if the carcasses of carnivores were disposed of in the proper way.

A.E.F.

196—Zeitschrift für Infektionskrankheiten, Parasitäre Krankheiten und Hygiene de Haustiere.

- a. ENIGK, K., 1941.—"Die Verhütung von Rundwurm Invasionen bei Schafen in Südwestafrika." 57 (2), 119-138.

(196a) Enigk has studied the effect of the climate and vegetation of South West Africa on the extra-corporeal stages of sheep nematodes, and suggests measures for their control. He finds that sandy soil is a more favourable medium for larval development than loam, and that larvae will develop in absolutely dry soil if they have a covering of even only 1 to 3 cm. of earth. The most practical and effective control measure is rotational grazing.

A.E.F.

197—Zentralblatt für Chirurgie.

- *a. PETROȘANU, J. N., PĂUNESCU-PODEANU, A. & CORĂCIU, G., 1941.—"Gigantische Bauchhöhlen-Echinokokkose." 68, 119-122.

* Original not available for checking or abstracting.

NON-PERIODICAL LITERATURE.

- 198—*DUNGER, R., 1941.—“Über Sommerwunden bei Militärpferden.” Dissertation, Hannover.

Dunger has carried out a series of blood examinations on army horses suffering from “summer sores”, and discusses the changes in the blood picture. He suggests that these changes may lower the resistance of the organism to the penetration of *Habronema* larvae. [From an abstract in Dtsch. tierärztl. Wschr., 49, p. 492.]

A.E.F.

* Original not available for checking or abstracting.